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Processes for coating molded plastic substrates with aqueous coating compositions

Description of Technology: The object of the invention is to provide an aqueous, isocyanate-curing coating composition which in particular possesses improved adhesion to plastic substrates and to optionally subsequent lacquer coats.

Patent Listing:

1. **US Patent No.** 5,665,434, Issued on September 9, 1997, "Process for coating molded plastic substrates with aqueous coating compositions."

http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=5,665,434.PN.&OS=PN/5,665,434&RS=PN/5,665,434

Market Potential: The coating compositions according to the invention are suitable for coating many optionally precoated substrates, such as for example metal, wood and in particular for coating precoated or uncoated plastic components, as are for example used in automotive construction. The coating compositions according to the invention are preferably used to produce primer coats, base lacquer coats, clear lacquer coats and topcoats. The primer coats or base lacquer coats produced from the coating composition according to the invention may be provided with further lacquer coats. These coats may be of known aqueous or solvent-borne coating compositions, or appropriately formulated coating compositions according to the invention are used.

Previous inventions needed improvement in terms of their adhesion to plastic components. The lacquer coats produced from the coating compositions according to the invention have excellent adhesion to plastic substrates and impart marked adhesion to subsequently applied lacquer layers.

Without being attached to a single theory, it is assumed that the surprisingly good adhesion of the lacquer coats produced with the coating compositions according to the invention to plastic surfaces and further lacquer coats arises from the covalent incorporation of the neutralising acid into the lacquer film during crosslinking, associated with the formation of polarising salt groups in the lacquer film.

Benefits:

- Improved adhesion to plastic components.
- Coats many optionally precoated substrates.

Applications:

- Coat metal, wood, and precoated or uncoated plastic components.
- Automotive construction.